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**CANCER TREATING DRUG**

[Gan Chiryoyaku]

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## Specification

### 1. Title of the invention

CANCER TREATING DRUG

### 2. Claim

1. A cancer treating drug, characterized by the fact that a bitter component of the hop of a mulberry plant is used as an active ingredient.

### 3. Detailed explanation of the invention

The present invention pertains to a cancer treating drug in which a bitter component of a hop is used as an active ingredient.

Recently, the causes and the treatment methods of cancers such as stomach cancer and lung cancer which are incurable diseases and have a high death rate have been researched through an enormous investment by scientists in the world. Its causes are called viruses or cancer cells or carcinogenic substances, however even the correct term is not determined yet. Therefore, chemical therapies (drugs) with a remarkable effect on the cancers with unknown causes are not found out in actuality.

At present, as the most effective method for completely treating the cancers, only its early discovery and surgical

treatment (surgery) are employed, and if the cancer is once advanced (transferred) to a certain prescribed symptom, it cannot be completely cured, even by applying any therapy. For this reason, many precious lives have been lost.

Then, cancer patients with serious symptoms can be treated only by a chemical therapy, and for this reason, lots of drugs were developed. However, any of them did not eradicate the cancers, and all the drugs having a special efficacy on the cancers induced serious side effects on the human body. Nontoxic harmless cancer treating drugs have not been found out in actuality. Therefore, the development of nontoxic harmless cancer treating drugs with a special efficacy has been a big medical task.

On the other hand, since this applicant run the liquor sales for a long time, the health states of many persons who respectively drank sakes and beers among liquors could be directly observed. As a result, it could be statistically discovered that diseases such as hypertension and cerebral /2 hemorrhage starting with cancers were generated for the persons who drank only the sakes and there was no person who died or was sick due to the beers. Especially, no person had cancer.

From the above-mentioned situation, this inventor thought that the hops being included in the beers might prevent and

suppress diseases such as cancer in advance and experimentally researched the strobiles of the hops. As a result, it was understood that there was an excellent cancer treatment effect in a bitter component of the strobiles of the hops, especially lupulin granules (containing a yeast for fermenting beers) mainly composed of plant female genital hormones.

The present invention is based on this discovery, and its purpose is to provide a cancer treatment drug that exerts an excellent cancer treatment effect.

The present invention is a creation of a technical concept that rationally achieves the above purpose.

First, the outline of the hop is explained.

The hop being used in the fermentation of beers is a climbing perennial herb with dioecism belonging to a mulberry. A relatively cool temperate zone where the annual average air temperature is 8.3-9.5°C, the average air temperature of the growth period (April to August) is 14.5-17°C, and the monthly average air temperature in summer does not exceed 20°C is suitable for its cultivation. In Japan, it is cultured in Hokkaido, Aomori, Yamagata, Iwate, Miyashiro, Fukushima, Gunma, Yamanashi, Niigata, Nagano, etc. for fermenting beers.

Also, the hop starts to bloom from the end of June to the beginning of July, and especially, female flowers being used in

the fermentation of beers are green strobiles in which many colors are overlapped and attached in a pineal shape on the axis. After blooming, a resin substance starts to secret from lupulin tentacles at the base of the inner sprouts and the outer sprouts of the strobiles, and the secretion is initially colorless and eventually changes from a light yellow color to a golden color. It is called a lupulin granule, and for the completion of most of the lupulin granules of the strobiles, 35-45 days are required after blooming. Furthermore, most of the active ingredients of the beer fermentation are included in the lupulin granules, the lupulin granule is mainly composed of a female genital hormone and has a unique aroma and a very bitter taste.

Next, a first embodiment in which the present invention is embodied is explained. In the present invention, first, the strobiles of the hops are harvested in 35-45 days after blooming. This harvest period is a period in which the lupulin granules being secreted to the base of the inner sprouts and the outer sprouts of the strobiles are completed over the entire strobiles. If the harvest period is early, the secretion of the lupulin granules is incomplete, and active ingredients are not sufficiently obtained. Also, in case the harvest period is delayed, the lupulin granules are changed in quality, their

color is changed with reddish, and the active ingredients are decomposed. In particular, the harvest on about the 40<sup>th</sup> day after blooming is optimum.

Next, the above-mentioned harvested strobiles of the hops are dried in the shade, naturally dried or forcedly dried with hot air at 40-60°C for 5-15 h to adjust the water content to 10-20%. The above-mentioned natural drying should be carried out in the shade, and the reason for this is that if the strobiles of the hops are exposed to the sunlight, especially the above-mentioned lupulin granules are changed in quality, so that there is a risk that the active ingredients are decomposed. Also, in the hot-air drying, if the temperature of the hot air is too high, the strobiles are burnt with brown, and the active ingredients being included in the lupulin granules are also reduced. Thus, the drying in the above-mentioned temperature range is required, and the hot air at about 55°C is optimum.

Furthermore, if the hot-air temperature is set high in the above-mentioned range, the time required for said hot-air drying is shortened. If the hot-air temperature is set to about 55°C, the sprouts of the strobiles have a water content of about 20% at about 4-5 h and about 10% at about 6 h. However, since about 50% water is included in the axis, the drying time of about 4 h

is further required. Therefore, in the hot-air drying, drying with hot air at about 55°C for about 10 h is optimum.

The components of the dried hops manufactured in this manner include 6-17% water, 0.13-0.48% essential oil, 7-25% /3 resin, 7-11% tannin, 10-17% total nitrogen substance, 10-18% coarse fibers, 5-10% ash, and yeast, and humulone, lupulin are included in the above-mentioned resin, and this resin is soluble in water.

Next, the strobiles of the hops dried at a water content of 10-20% by the natural drying or hot-air drying as mentioned above are put into a bag made of linen and silk, etc. The bag was dipped at a ratio of 5-10 g/L into clean water by soil bottle made ceramic or high-pressure crucible, pot, etc., and it is boiled down at 60-65°C for 1-3 h and boiled up at 90-100°C for 30-60 sec while slowly supplying the water being evaporated.

The container used in this case is required to be a nonmetallic ceramic ware, and the reason for this is that for example if a ferrous container is used, the tannin being included in the strobiles of the hops are bonded with the iron to an insoluble tannin iron, so that the tannin iron in the completed hot extracts is mixed as an impurity having no effect as a cancer treatment effect. Also, the ratio of the strobiles of the hops and the clean water should be in a range of 5-10 g/L as



mentioned above, and if the amount of strobiles of the hops is smaller than the range, the completed hop extracts are dilute and have a small amount of active ingredients. Also, even if the amount of strobiles of the hops is larger than the range, the amount of active ingredients being eluted in the clean water is not changed but remains in said strobiles.

Furthermore, in the above-mentioned case, since it was clarified from the experimental research that when the heating temperature was 60-65°C, one kind of active ingredients being included in the strobiles of the hops was extremely easily eluted and another kind of the active ingredients was easily eluted at 90-100°C, boiling-down and boiling-up in this range are optimum. If the required time is shorter than the above-mentioned range, the active ingredients are not sufficiently eluted but are dilute, whereas even if the boiling time is increased, the active ingredients are not further eluted. Thus, about 2 h is optimum. Also, in case boiling is applied at the above-mentioned at 60-65°C for 1-3 h, water is put at the above-mentioned ratio into the strobiles of the hops and boiled, and the water is poured to finally adjust it to the above-mentioned range.

The hop extract in a roasted drug state prepared in this manner exhibits a very bitter taste, has considerable osmotic

absorption power and antiseptic sterilization power to the mucous membranes and the skin, has an action of improving the blood circulation by stimulating the metabolism, and is nontoxic and harmless to the human body.

Also, the above-mentioned antiseptic sterilization power has the following experimental results.

In other words, when 5 mL of the above-mentioned hop extract was mixed with 200 mL raw milk and examined after one month, there was no quality change due to decay, and the generation of molds was not seen. However, in a raw milk to which the hop extract was not added, a colony of molds was generated, and green molds were largely proliferated.

Also, it is experimentally proved that the above-mentioned hop extract has an efficacy on diseases such as diabetes, hypertension, and gastroenteric trouble.

Finally, a cancer treating drug can be manufactured by mixing the above-mentioned hop extract with a harmless drug base agent.

As a result of experimental researches, it was clarified that the cancer treating drug manufactured from the nontoxic harmless hops was not likely to cause a side effect, could be dosed similarly to general roasted drugs, and exerted excellent effects on the treatment of various kinds of cancers such as

stomach cancer, bladder cancer, and liver cancer. Next, its two examples are sequentially explained.

#### Experimental result 1

Mr. A with an agricultural job living at Furukawa-cho, Yoshiki-gun, Gifu-ken had discharged hematuria from September 1972 and diagnosed as bladder cancer in a certain hospital at Takayama shi. In June of the next year, he was hospitalized in a cancer research center attached to Meidai and subjected five times to an English type water pressure therapy, and recommended to undergo a surgical operation in said research center. However, Mr. A who had seen many patients that died after the surgery could not undergo a surgical operation, left the hospital, and adopted a dietary treatment. On the other hand /4 hand, since Mr. A knew that the cancer treating drug composed of the hop was very effective on the diabetes as an incurable disease, he started to take the cancer treating drug, considerably felt well after about half a year, and continuously took the drug for two years since then. He gradually regained his health and is currently completely recovered. The bladder cancer as a considerably serious disease was completely cured by this cancer treating drug.

#### Experimental result 2

Mrs. B as a housewife living at Furukawa-cho, Yoshiki-gun, Gifu-ken underwent a surgical operation of a stomach cancer in a certain hospital at Takayama-shi in January 1974, left the hospital in May of the same year, and rested in home. Since then, Mrs. B commuted to the hospital for about one year and gradually felt well, however the disease was transferred to the stomach cancer in about July of 1975, and diagnosed as a tongue cancer. Accordingly, Mr. B took five kinds of external cancer treating drugs. However, the stomach was deteriorated, and the dosage of the drugs was stopped. When this applicant dosed the above-mentioned cancer treating drug to Mrs. B, she was visibly recovered and could eat soup meals in September after one month. She took ordinary meals after 2 months and started a light work in a rice reaping field after 3 months. Since then, she regained her health, recovered to the original health body, and completely cured.

Also, the present invention is not limited to the above-mentioned first embodiment but can also be embodied as the following patterns.

(i) In the above-mentioned first embodiment, the hop extract was mixed with other drug base agents and formed as a cancer treating drug in a roasted drug state, however the above-mentioned hop extract is used as it is as a cancer treating

drug. In this case, there are also operation effects similar to those of the above-mentioned first embodiment.

(ii) In the above-mentioned first embodiment, the hop extract was mixed with other drug base agents and formed as a cancer treating drug. However, the strobiles of the hop dried at a water content of 10-20% by natural-drying or hot-air drying as mentioned above are crushed to a powder-shaped hop. This powder-shaped hop is used as it is as a cancer treating drug. Also, the powder-shaped hop is mixed with other drug base agents and formed as a cancer treating drug.

In this case, the operation effects are similar to those of the above-mentioned first embodiment.

(iii) Also, in case the above-mentioned or powder-shaped hop is used as it is as a cancer treating drug or in case they are mixed with other drug base agents and formed as a cancer treating drug, anticancer drugs are added.

(iv) Also, another embodiment of the present invention is explained.

The above-mentioned dried hop was crushed to a fine powder with a mesh of 300, and 1.5 L water was put into a soil bottle (1.8 L) made of ceramic, well stirred, and eluted for 2 h by a propane gas of a weak fire. In the meantime, about 1/3 of the entire amount was reduced, and water was drained as much as the

amount. Finally, the hop was boiled for 30 sec by a propane gas of a strong fire, so that 1.5 L hop extract was prepared. The hop extract was used as it is or mixed with other drug base agents to attain a cancer treating drug.

The cancer treating drug obtained has excellent carcinostatic action.

(v) In the above-mentioned embodiments, the roasted and powder-shaped cancer treating drugs were manufactured. However, they may be formed in a granular shape or put into a capsule for easy dosage.

Also, in the above-mentioned embodiments, the cancer treating drugs were dosed, however in addition to that, for example, they can also be injected into the blood or spread on the skin or injected into the infected part after a surgical operation. Also, they can be used as an anticancer drug by dosing them to persons other than cancer patients.

As mentioned above in detail, according to the present invention, since the bitter component of the hop of a mulberry plant is used as an active ingredient, it can be dosed to patients with various cancers such as stomach cancer, lung /5 cancer, breast cancer, and liver cancer without a concern of side effects and can treat various kinds of cancers. Therefore, the present invention is excellent as a cancer treating drug.